

DISK CONTROLLER PROVIDING FOR THE AUTO-TRANSFER OF HOST-REQUESTED-DATA FROM A CACHE MEMORY WITHIN A DISK MEMORY SYSTEM

ABSTRACT

A disk-controller (110) that is within a disk memory system (100) initiates the auto-transfer of host-requested-data from cache memory (120) without the intervention of a microprocessor (130) that is within the disk memory system. The system performs auto-transfer, without the intervention of the microprocessor, even when the first block of host-requested-data (301) is not within cache memory (311). The system includes disk-controller circuitry (11) that determines when at least a portion of the host-requested-data is somewhere within cache memory. When only a portion of the host-requested-data is found within cache memory, and the first block of host-requested-data is not the first block of data within cache memory, the circuitry (112) generates a new Cache-Counter-Value, a new Cache-Pointer-Value and a new Cache-Start-Address value, which new values are used to initiate the auto-transfer of this cache-resident-portion of the host-requested-data from cache memory, as the power of the microprocessor is concurrently used to fetch the missing host-requested-data from a magnetic disk device (140).